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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,322

05/02/2005

Heinrich Eder

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SCULLY, SCOTT, MURPHY & PRESSER, P.C.

400 GARDEN CITY PLAZA

SUITE 300

GARDEN CITY, NY 11530

EXAMINER

GODENSCHWAGER, PETER F

ART UNIT

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1796

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,322	EDER, HEINRICH	
	Examiner	Art Unit	
	Peter F. Godenschwager	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/2/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 15, 18, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 recites the limitation "the body" in line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purposes of further examination, "the body" is being interpreted as any person in relation to the composition.

Claim 18 recites the limitation "the body" in lines 4 and 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purposes of further examination, "the body" is being interpreted as any person in relation to the composition.

Claim 19 recites the limitation "the body" in lines 5 and 6 of the claim. There is insufficient antecedent basis for this limitation in the claim. For the purposes of further examination "the body" is being interpreted as any person in relation to the composition.

The term "weakly radioactive" in claim 20 is a relative term which renders the claim indefinite. The term "weakly radioactive" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Furthermore, it is not clear as to how applicant is defining what is and what is not a radioactive substance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5-7, 11-13, and 22 rejected under 35 U.S.C. 102(b) as being anticipated by Lange (US Pat. No. 6,548,570).

Regarding Claims 1, 5-7, 11 and 13: Lange teaches a radiation shielding material for radiation from 10 to 200 keV (equivalent to a 10 to 200 kV tube) comprising 12.5 weight percent rubber (matrix material), 52 weight percent of Sn, 28 weight percent of a W compound, and 6.5 weight percent of a compound such as gadolinium oxide or cerium carbonate (Gd or Ce

compounds) (2:24-30, and Example 2, 5:40-56). The Office recognizes that all the claimed physical properties are not positively taught by the reference, namely that for claim 1, at 60 to 140 kV the lead equivalence is from 0.25 to 2.0 mm and for claim 11 that at 60-90 kV the lead equivalence is from 0.25 to 0.6 mm. However, the reference teaches all the claimed ingredients, process steps and process conditions. Therefore, the claimed physical properties would inherently be achieved by the disclosed composition.

Regarding Claim 12: The 6.5 weight percent of a compound such as gadolinium oxide or cerium carbonate (Gd or Ce compounds) in the composition of Lange (Example 2) anticipates a further addition of 2 to 25 weight percent of a compound that may be Ce.

Regarding Claim 22: Lange additionally teaches that the composition may be part of an apron (6:30-33).

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Thiess et al. (US Pub. No. 2004/0262546).

Thiess et al. teaches a lead-substitute radiation absorbing composition comprising 20-40 weight percent of rubber (matrix material) with the remaining weight percent being radiation absorbing particles ([0015]). With regards to the radiation absorbing particles, Thiess et al. teaches that they may comprise 40-60 weight percent Sn, 20-30 weight percent W, and 20-30 weight percent Bi ([0025]). At 22 weight percent rubber, these ranges give weight percents relative to the entire composition of: 31.2-46.8 for Sn, and 15.6 to 31.2 for W and Bi, anticipating the ranges of claims 1-4. The Office recognizes that all the claimed physical properties are not positively taught by the reference, namely that for claim 1, at 60 to 140 kV the

lead equivalence is from 0.25 to 2.0 mm. However, the reference teaches all the claimed ingredients, process steps and process conditions. Therefore, the claimed physical properties would inherently be achieved by the disclosed composition.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US Pat. No. 6,548,570) in view of Whittaker et al. (US Pat. No. 3,883,749).

Lange teaches the composition of claim 1 as set forth above.

Lange does not teach the addition of Ta, Hf, Lu, Yb, Tm, Th, U or their compounds in an amount of up to 40%. However, Whittaker et al. teaches the use of 10-45% of a uranium compound in a radiation protective garment (abstract, 3:33-37). As claim 9 depends from claim 8, and claim 10 depends from claim 9, the "additionally comprising" in each of these claims is being interpreted as material in addition to what is in the composition of the claim from which it depends. As this includes additional uranium to what may already present, the range of Whittaker et al. overlaps the claimed ranges of instant claims 8-10. Lange and Whittaker et al. are combinable because they are concerned with the same field of endeavor, namely radiation protective garments. At the time of the invention, a person of ordinary skill in the art would have

found it obvious to use the uranium of Whittaker et al. in the composition of Lange and would have been motivated to do so because Whittaker et al. teaches that uranium is especially effective at blocking x-rays in the fluoroscopically significant range of 10 to 40 keV (3:26-37).

Claims 14-16, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US Pat. No. 6,548,570) in view of Teleki (US Pat. No. 4,795,654).

Lange teaches the composition of claim 1 as set forth above.

Regarding claim 14: Lange does not teach the composition as comprising multiple layers of different compositions. However, Teleki teaches a radiation protective composition of multiple layers of differing compositions where one layer may comprise U and another Sn (1:16-28 and 3:28-35). Lange and Teleki are combinable because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the multilayers of Teleki with the composition of Lange and would have been motivated to do so because Teleki teaches that another layer may protect from secondary radiation emitted by a first layer (1:16-28).

Regarding Claim 15: While the references Lange and Teleki do not instruct a use of the layers relative to a body, at some point the layer with higher atomic weight material for example U, will be closer than the other layer to the body of either the wearer of the material, or a person near the wearer of the material.

Regarding Claim 16: The layer taught by Lange comprises 52% Sn.

Regarding Claim 17: The layer taught by Lange comprises 52% by weight of Sn and 6.5% by weight of compound such as cerium carbonate. This is equivalent to a 58.5% by weight

portion of the composition, where in that portion, Sn is present in 89% by weight and cerium carbonate is present in 11% by weight.

Regarding Claim 18: While the references Lange and Teleki do not instruct a use of the layers relative to a body, at some point the layer with higher atomic weight (and therefore lower X-ray fluorescent yield) material for example U, will be closer than the other layer to the body of either the wearer of the material, or a person near the wearer of the material.

Regarding Claim 19: Lange does not teach the composition as comprising at least three layers wherein the middle layer is comprised of elements having a lower atomic number than the two outside layers. However, Teleki teaches using a thin layer of aluminum in between layers such as tin. Lange and Teleki are combinable because they are concerned with the same field of endeavor, namely radiation protective materials. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the triple layer of Teleki in the composition of Lange and would have been motivated to do so because Teleki teaches that the Al layer improves the absorption properties of the structure by dispersing the X-ray or gamma radiation (1:65-2:1). Furthermore, by definition, the middle layer will be in between layers that are both further away and closer to any body than the middle layer.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lange (US Pat. No. 6,548,570).

Lange teaches the composition of claim 1 as set forth above and that the compounds are grains (granular) (3:15-26).

Lange does not teach the specific particle size requirement of claim 21. However, Official notice is taken that it is well known in the art to change result effective variables such as grain size distribution (See MPEP 2144.05). At the time of the invention, a person of ordinary skill in the art would have found it obvious to optimize the grain size distribution of Lange and would be motivated to do so because Lange teaches that "grain size distribution and particle form are important parameters for achieving the desired flexibility with the maximum amount of filler material" (1:33-35).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-4 and 14 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 7,041,995. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the ranges for matrix material, Sn, W, and Bi, of the instant claims overlap those of Pat. No. 7,041,995.

Claims 1-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of copending Application No. 10/550,248. Although the conflicting claims are not identical, they are not patentably distinct from each other because: the claims differ only in that application 10/550,248 recites a specific matrix material whereas the matrix material in the instant application is general. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the matrix material of application 10/550,248 as the matrix material of the instant application and would be motivated to do so based on the intended use of the composition.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached form PTO-892.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter F. Godenschwager whose telephone number is (571) 270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PFG 
January 11, 2008


MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER

22/Jan/08